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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,297	06/22/2007	Sergej Lopatin	LOPA3011/FJD	9108
23364 7590 11/24/2009 BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314-1176			EXAMINER SAINT SURIN, JACQUES M	
			ART UNIT 2856	PAPER NUMBER
			MAIL DATE 11/24/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/591,297

Applicant(s)

LOPATIN ET AL.

Examiner

J M. SAINT SURIN

Art Unit

2856

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-XXX have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 14-24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Pfandler (US Patent 5,408,168).

Regarding claim 14, Pfandler discloses an apparatus for determining and/or monitoring the fill level, density and/or viscosity of a medium in a container (col. 1, lines 6-8) or the volume and/or mass flow of a fluid in a pipe, having:

at least one oscillatable unit (21, 22) which produces, and/or receives, mechanical oscillations;

at least one tuning unit (31) whose stiffness is variable and which is embodied in such a manner and connected in such a manner with said oscillatable unit (col. 3, lines 1-3) or is a component of said oscillatable unit in such a manner, that at least the resonance frequency of said oscillatable unit is changeable via said at least one tuning unit (see also col. 6, lines 40-65).

Regarding claim 15, Pfandler discloses wherein said tuning unit comprises a piezoelectric material, which is connected with electrodes and whose stiffness is changeable at least by an electric current between the electrodes (col. 4, lines 54-67).

Regarding claim 16, Pfandler discloses wherein: said tuning unit comprises a magnetostrictive material whose stiffness is changeable at least by an applied magnetic field (col. 6, lines 1-11).

Regarding claims 17-18, Pfandler discloses the apparatus as claimed in claim 14, further having: a control unit which controls said tuning unit electrically (col. 7, lines 27-40).

Regarding claim 18, Pfandler discloses wherein said control unit is embodied in such a manner that it tunes the resonance frequency of said oscillatable unit as a function of the oscillation amplitude and/or oscillation frequency of the mechanical oscillations produced and/or received by said oscillatable unit (col. 4, lines 1-3, col. 5, lines 27-38 and col. 7, lines 27-40).

Regarding claims 19-20, Pfandler discloses wherein at least one inner oscillatory rod (21) and an outer oscillatory rod (22) are provided in said oscillatable unit; said outer oscillatory rod surrounds said inner oscillatory rod coaxially; said outer oscillatory rod and said inner oscillatory rod are coupled together; and at least one tuning unit is coupled at least with one of said oscillatory rods and wherein said tuning unit is connected at least with said inner oscillatory rod (see Fig. 1 and col. 3, lines 60-68).

Regarding claim 21, Pfandler discloses wherein at least one sending/receiving piezo is provided in said oscillatable unit (col. 8, lines 1-15); said tuning unit (31) is a part of said oscillatable unit (3, 21, 22, 25, 31); and the resonance frequency of said oscillatable unit lies in the ultrasonic range (col. 7, lines 3-9 and lines 14-17).

Regarding claim 22, Pfandler discloses wherein at least one front-side mass and one rear-side mass are provided in said oscillatable unit; at least one sending/receiving piezo (col. 8, lines 1-7) is provided between the two masses (col. 6, lines 42-59); at least one tuning unit (31) is part of one of the two masses (21, 22); and the resonance frequency of said oscillatable unit lies in the ultrasonic range (col. 7, lines 3-9 and lines 14-17).

Regarding claim 23, Pfandler discloses the apparatus as claimed in claim 21, wherein at least one matching layer (35) is provided in said oscillatable unit for coupling to the medium .

Regarding claim 24, Pfandler discloses wherein at least one bolt is provided in said oscillatable unit for producing a prestress (col. 5, lines 21-25).

Regarding claim 26, Pfandler discloses a method for changing the resonance frequency of an apparatus for determining and/or monitoring the fill level, density and/or viscosity of a medium in a container (col. 1, lines 6-15) or the volume and/or mass flow of a fluid in a pipe, comprising the steps of:

providing at least one oscillatable unit (21, 22), which produces and/or receives mechanical oscillations (col.5, lines 57-61);

connecting (col. 4, lines 9-17) a tuning unit (31), with the oscillatable unit (21, 22) or is a part of the oscillatable unit (21, 22); and

changing the stiffness of the at least one tuning unit (col. 6, lines 54-64).

4. Claims 14-15, 17-20, 22 and 24 are rejected under 35 U.S.C. 102 (e) as being anticipated by D'Angelico et al. (US Patent 7,436,100).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 14 and 26, D'Angelico et al. discloses an apparatus for determining and/or monitoring the fill level, density and/or viscosity of a medium in a container or the volume and/or mass flow of a fluid in a pipe, (col. 1, lines 7-11) having:

at least one oscillatable unit (2) which produces, and/or receives, mechanical oscillations (col. 5, lines 36-38);

at least one tuning unit (5) whose stiffness is variable and which is embodied in such a manner and connected in such a manner with said oscillatable unit (col. 5, lines 1-6) or is a component of said oscillatable unit in such a manner, that at least the resonance frequency of said oscillatable unit is changeable via said at least one tuning unit (see also col. 2, lines 34-40, col. 5, lines 7-18, col. 5, lines 36-49).

Regarding claims 15, 17-18, D'Angelico et al. discloses the claimed limitations in col. 2, lines 34-40, col. 5, lines 19-25.

Regarding claims 19-20, 22 and 24, D'Angelico et al. discloses the claimed limitations in col. 5, lines 1-18).

5. Claims 14-15, 17-18 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Getman et al. (US Patent 6,644,116).

6. The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 14-15, 17-18 and 26, Getman et al. discloses a device for determining and/or monitoring the level of a medium in a container or for ascertaining the density of a medium in the container embodied as a vibration detector (see abstract). Getman further discloses the vibration detector 1 comprises a housing 2, a tubular inner part 7, and an oscillatable unit 5, which is fastened to a diaphragm 3. In

the case shown, the oscillatable unit 5 comprises an oscillating fork with two oscillatory rods 4. The tubular inner part 7 has an annular bead 8, whose outer edge in the installed state is essentially flush with the outer surface of the housing 2. In the region of the annular bead 8, the housing 2, tubular inner part 7 and diaphragm 3 are welded to one another and to the oscillatable unit 5 secured to the diaphragm (col. 4, lines 26-35); see also (col. 4, lines 45-67 to col. 5, line 15, col. 6, lines 47; col. 1, lines 55-61).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pfandler (US Patent 5,408,168) in view of Drahm (US Patent 5,531,126).

Regarding claim 25, Pfandler discloses the claimed invention except for the limitations of a Coriolis mass flow or a Coriolis mass flow/density meter. Drahm discloses a straight measuring tube as a vibrating body through which flows a fluid to be measured (col. 1, lines 6-9). It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize in Johnson or Umezawa the measuring tube of Drahm because it includes a mass flow sensor working on the Coriolis principle wherein the viscosity of the fluid can be determined from the vibration amplitudes of measuring tube and dummy tube in a reliable manner.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J M. SAINT SURIN whose telephone number is (571)272-2206. The examiner can normally be reached on Mondays to Fridays between 9:30 A.M and 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron L. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jacques M SAINT SURIN/
Primary Examiner, Art Unit 2856